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COMMUNITY-BASED WATERSHED MANAGEMENT

**Lessons from the
National Estuary
Program**

FEBRUARY, 2005

COMMUNITY-BASED WATERSHED MANAGEMENT

LESSONS FROM THE
NATIONAL ESTUARY PROGRAM



February, 2005

EPA-842-B-05-003

Acknowledgments

This handbook was prepared by the U.S. Environmental Protection Agency's (EPA) Coastal Management Branch. The content of this handbook is the result of a collaborative effort among the directors and staff of the 28 National Estuary Programs and the EPA's National Estuary Program Regional Coordinators. The EPA Work Assignment Manager was Tim Jones, who provided overall project coordination.

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Message from the Office Director

Environmental protection programs in the United States have significantly improved water quality during the last quarter century. Nonetheless, many challenges remain. Of the waters assessed in the United States, about 40% of streams, 45% of lakes, and 50% of estuaries remain too polluted for fishing, swimming, and other uses. The watershed approach—targeting high priority water quality and habitat problems within hydrologically-defined areas—is essential to address these issues.

Through this handbook, we describe the highly successful approaches to watershed management implemented by the 28 National Estuary Programs (NEPs). The NEPs, unique partnerships of the U.S. Environmental Protection Agency (EPA) and numerous federal, state, and local organizations, work together to address coastal watershed management challenges. This document presents new information from nearly 20 years of the NEP experience and describes how the NEPs:

- protect and restore estuaries by developing and implementing comprehensive management plans;
- foster consensus on difficult issues by establishing effective governance structures;
- conduct vigorous education and outreach by involving the public;
- obtain significant funding by leveraging scarce resources;
- establish credibility by using science to inform decision making; and
- sustain their efforts by measuring and communicating results.

The principles and lessons learned contained in this document are relevant not only to NEPs, but to other watershed organizations who are working to implement watershed protection and restoration efforts. Whether working in coastal or non-coastal areas, watershed organizations can learn from the NEPs about innovative approaches to integrating science and management, fostering collaborative decision-making, and involving the public. While coastal estuaries may be home to certain elements that are not found in non-coastal areas, this handbook provides examples that do not require the presence of coastal elements to be successfully applied.

I hope this document will be useful for all practitioners involved in watershed management, including the staff of the NEP and EPA. Thank you to all of the 28 NEPs who contributed to the development of this report.



Diane Regas, Director
Office of Wetlands, Oceans, and Watersheds
United States Environmental Protection Agency

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Tillamook
Estuaries
Partnership

San Juan Bay
Estuary Program



Buzzards Bay
Project



Protecting Our Water Heritage



New York - New Jersey
Harbor Estuary Program



Galveston
Bay



A program of TCEQ



Estuary Program



MORRO BAY
NATIONAL
ESTUARY
PROGRAM



Casco Bay Estuary Project

New Hampshire
Estuaries Project



COMMUNITY-BASED WATERSHED MANAGEMENT

LESSONS FROM THE NATIONAL ESTUARY PROGRAM

FEBRUARY, 2005

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Executive Summary

Community-Based Watershed Management: Lessons from the National Estuary Program (NEP) is designed for all individuals and organizations involved in watershed management, including states, tribes, local governments, and nongovernmental organizations. This document describes innovative approaches to watershed management implemented by the 28 National Estuary Programs (NEPs). The NEPs are community-based watershed management organizations that restore and protect coastal watersheds. Drawing on nearly 20 years of experience, readers will learn how the NEPs organize and maintain effective citizen involvement efforts, collect and analyze data, assess and prioritize problems, develop and implement management plans, and communicate results of program activities. While estuaries and their coastal watersheds are the focus of the NEPs, the estuary program experience can also be adapted to non-coastal watershed initiatives.

Each chapter begins with the key management principles from the NEP experience. These broad principles are described and illustrated with examples from the 28 individual NEPs. The examples show how the NEPs address specific problems within identified priority problem areas, such as loss of habitat, polluted runoff, and invasive species. In many cases, actions address multiple problems simultaneously, such as land acquisition to reduce polluted runoff and increase habitat. The examples are found throughout the text and in sidebars, as well as at the end of each chapter. Six appendices provide additional information regarding the NEP watershed approach, including a brief summary of each NEP that includes their Web site address. The following paragraphs summarize the contents of each chapter.

Chapter 1 discusses the origin of the NEP and presents the four cornerstones or principles of the NEP: (1) focus on the watershed; (2) integrate science into the decision-making process; (3) foster collaborative problem solving; and (4) include the public. The chapter also describes the four phases of the NEP process—establishing a governance structure, identifying problems and solutions, developing the Management Plan, and implementing the Management Plan—and discusses the applicability of the NEP model to other watershed management efforts.

Chapter 2 explains how the NEPs develop a governance structure and support the work of stakeholder committees. The chapter describes how the NEPs provide a forum for open discussion, cooperation, and compromise that results in consensus. Examples of governance structures are provided that show how the NEPs set a course for their programs, direct day-to-day operations, coordinate with local governments, and ensure long-term financial support.

Chapter 3 describes how each NEP assesses an estuary to determine its health and the effectiveness of existing management efforts. The chapter outlines how the NEPs conduct a Technical Characterization that describes the quality of the estuary, defines its problems, and suggests possible solutions. The chapter also describes how the NEPs conduct the Base Program Analysis—an evaluation of the institutional structures that affect the estuary. Finally, the chapter discusses how the findings resulting from the Technical Characterization and Base Program Analysis are combined and translated into plain English, telling a story about the estuary and its watershed.

Chapter 4 explains how the NEPs use the results of the Technical Characterization and Base Program Analysis to develop management plans that address the problems of the estuary. The chapter discusses how the NEPs involve affected jurisdictions, agencies, and other organizations and individuals in the writing of the plan to ensure stakeholder support and a commitment to implement the plan. The chapter also shows how the NEPs use demonstration projects during plan development to showcase innovative management strategies, involve the public, and demonstrate the types of changes that full implementation can bring about.

Chapter 5 describes how the NEPs maintain the momentum of their watershed programs as they shift from planning to implementation. The chapter explains how the NEPs adopt bylaws and other agreements that define participant roles and provide a mechanism for resolving conflicts; articulate a clear and realistic definition of success that includes measurable indicators; seek a variety of funding sources to avoid over-reliance on a single entity; and involve citizens in environmental monitoring and building public support for implementation.

Chapter 6 summarizes the key principles that run throughout this unique and creative approach to watershed management and highlights how they are applied to achieve success.